

Abstract

This invention is a micromachined sensor pixel structure that can be fabricated either as a discrete sensor or in array form with application to thermal sensing of radiation received from various wavelength emitters. The transmissivity of a thermally-isolated microplatform is a sensitive function of temperature. This transmissivity is modulated by incident radiation from sources including infrared sources. The transmissivity of a micromachined structure is interrogated by means of an optical carrier. Readout is obtained by means of conventional silicon optical sensors or imagers. A multiplicity of micromachined pixels can be tailored for specific wavelengths permitting the array to operate as a multispectral imager with windows ranging from ultraviolet to millimeter wavelengths.